

APPLICATION # CL1- 00511-1

STAFF ANALYSIS

FEASIBILITY:

Project Scope: The project will (1) expand an existing laboratory building to provide three times the amount of space available for hESC research by providing additional tissue culture and characterization capacity, (2) upgrade space to create a dual-use training laboratory, (3) expand an existing vivarium to provide capacity for hESC-related research and (4) upgrade existing institutional shared-use space devoted to Gene Analysis and Cell Imaging to meet the needs of hESC researchers. The main laboratory work is defined as combining two existing rooms by opening up doorways in the existing non-bearing walls that currently divide these spaces. Existing fume hoods will remain in place and laboratory benches will be reconfigured to accommodate the specialized needs and equipment for stem cell research. An existing equipment room will be renovated to accommodate hESC-specific equipment. The work to be completed in the space designated as the training laboratory could not be determined, but most of the investment of grant funds in this space is for placement of new movable equipment. The work in the vivarium includes reconfiguring walls to expand the vivarium by enclosing space currently used as a “freezer farm.” The remodeled space will hold 12 cage racks with a capacity of 1,728 cages dedicated to stem cell-related research projects. The plans provided in support of the laboratory project are schematic drawings indicating placement of equipment and assignment of space by activity (e.g. laboratory, equipment rooms, etc). Plans for the vivarium expansion indicate placement of new walls and layout of cage racks.

The proposed improvements involve a total of 6,000 gross square feet (gsf) encompassing 4,000 assignable square feet (asf). The difference between gross and assignable would be the thickness of the walls utility space, and major circulation involved in the project.

The work in the existing 1,000 asf hESC laboratory space consists of renovations to create the “laboratory space” course. The major improvements are in the 2,300 asf of expansion space located across the hall from the existing laboratory. The vivarium space renovation involves 770 asf which mainly consists of partitioning, finishes and utilities for the cage room.

An area take-off from the drawings could not be made to verify the renovation areas as the drawings lacked a scale.

Project Management: The proposal identifies that institution construction management processes are in place at the institution with appropriate institutional management support.

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Cost:

The proposal indicates that the construction budget for the research and training space renovations is \$480,500 and the budget for the vivarium is \$160,000. These total \$640,500. A total of \$666,125, however, is proposed in the construction budget, indicating an additional \$25,125 for other unidentified costs. There is no further breakdown by cost category or trade provided to substantiate the budget estimates. The budgeted amount for design fees, administrative costs and project contingency represent 22 percent of the construction amount which is within the RFA budget guidelines of 25 percent.

Based on the indicated assignable area, the overall cost per asf for the renovation work is \$203. To convert this to a comparable figure for gross square feet (gsf) in a typical research-intensive building, one would assume an overall building efficiency of assignable-to-gross area of 60 percent. Thus, the 4,000 asf would equate to 6,667 gsf if one considers the full complement of building space (e.g. the gross building area including circulation and support) constructed to support the area to be renovated. Using this calculated gross area, the cost per gsf would amount to \$122/gsf. This provides a more meaningful comparison to new laboratory building construction costs. We conclude that the average cost for new laboratory construction would be about \$600/gsf, excluding land and site utilities. This amount would vary widely within California, but is being used here as an indicator of new construction value for comparative purposes. Based on this comparison, we conclude that the renovation work represents about 20 percent of the cost of new laboratory space. Typical capital funding guidelines indicate that costs should not exceed about 65 percent of new construction in order to be considered a reasonably good investment to provide new program space.

The proposal includes improvements to animal facilities which require extensive costs for durable finishes and HVAC improvements. Without a detailed cost estimate, there is no way to ensure that the full scope of work proposed can be accomplished within the amount budgeted.

The applicant indicates that the shared laboratory would be able to accommodate the NIH-free laboratory space needs of about 19 institutional-based Principal Investigators (PIs). Assuming 90 percent of the total cost is for the shared laboratory use, and considering just the 19 institutional based PIs, the cost per PI for the renovations is about \$38,400. Based on CIRM funding only (construction and equipment) the cost per institutional-based PIs is \$86,330.

The applicant has committed to addressing cost overrun through possible scope reductions or re-bid strategy. No additional funds have been made available.

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TIMELINE:

Architectural plans for the project would begin shortly after grant award. Preparation of drawings and award of a construction contract would take about four months. The actual construction is to take four months. Thus, the project would be occupied about eight months after award of the grant.

INSTITUTIONAL COMMITMENT:

The applicant indicates that a total of \$772,876 is provided as matching funds for shared laboratory construction (\$170,000) and equipment (\$478,818). Most of these funds are for equipment purchases including animal caging systems that the applicant has indicated as being prior expenditures that qualify as matching funds. The \$170,000 that is cited as the construction match represents 27 percent of the construction grant funding request, and exceeds the minimum matching requirement of 20 percent of the grant amount.

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HISTORICAL PERFORMANCE:

Data for three projects, ranging in value from \$130,000 to \$294,000 and completed between December 2005 and February 2007, were submitted to provide information on the historical performance on capital projects. The final project cost was 46 percent over the original budget in one case, and the final costs were exactly the same as the budget in the other two cases. Project completion occurred exactly as originally scheduled in all three cases. There was only one change order among the three projects. There were eight laboratory renovation projects undertaken at this institution over the past two years with a value of \$2 million.

RESPONSIVENESS:

Shared Laboratory: The applicant indicates that there are 30 PI's based at the host institution that are planning to undertake hESC research activities once additional NIH-free space is available. A total of up to 100 full-time and part-time researchers would be accommodated by the shared research laboratory. Some of these potential users would overlap with other shared laboratory applications in this vicinity.

Techniques Course: The applicant has requested funding operation of a shared research laboratory and a techniques course. The costs of the renovations for the shared research laboratory and techniques course have been combined as dual use space. There is no means to allocate the cost of renovations between the shared laboratory and the

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techniques course. The applicant has requested \$496,231 for equipment cost with an associated \$124,058 of matching funds for a total of \$620,289.

Facilities Work Group Issues

- How will the FWG resolve the cost overruns that may result in a reduction of project scope?

The grant management office will need to confirm that all conditions of the grant as indicated in the Grants Administration Policy have been met. This would include confirming that all past work is consistent with grant requirements for prevailing wage and other construction-related requirements. This includes confirmation that equipment funds are budgeted pursuant the Grants Administration Policy as adopted December 7, 2006.